Timed Up and Go Test (TUG) and Five Times Sit to Stand Test (FTSST) at enrollment and 1 year

GROUP	TUG baseline Mean (CI)	TUG – 1 year Mean (CI)	FTSST – baseline Mean (CI)	FTSST – 1 year Mean (CI)
1	10,6 (10,3–12,4)	10,8 (10,4–13,1)	20,6 (20,5–24,7)	16,6 (16,6–20,3)
2	10,9 (11,2–13,6)	11,5 (10,8–13,5)	23,2 (20,6–24,8)	17,4 (15,4–18,7)
3	11,8 (11,7–14,9)	12 (11,6–14,3)	21,4 (20,4–26,7)	17 (16,2–20,2)
4	12,6 (12,2–15,6)	12 (11,4–14,2)	22,1 (20,4–26,3	18,4 (17,7–23,21)
	P = 0.240		P = 0,037	
CLASSROOM (1+2+3)	12.4 (11.6–13.1)	12.3 (11.5–13.1	23 (21.5–24.4)	17.9 (16.9–18.9
NO CLASSROOM	13.9 (12.2–15.6)	12.8 (11.4–14.2	23.3 (20.4–26.3)	20.4 (17.7–23.2)
	P = 0.066		P = 0.012	

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JOINT-SPECIFIC FACTORS AND COPING STYLES ARE ASSOCIATED WITH DISABILITY IN PATIENTS WITH HAND OSTEOARTHRITIS

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Purpose: Hand osteoarthritis (OA) leads to considerable limitations in daily activities. It is unclear which factors contribute to these limitations. The objective of this study was to examine the role of joint-specific factors and coping styles on disability in patients with hand OA.
Methods: Cross-sectional data and 1 year follow-up data were used of the ongoing HOSTAS (Hand OSTeoArthritis in Secondary care) study, in which consecutive patients are included, who are diagnosed by the treating rheumatologist with primary hand OA. Participants underwent physical examination to assess the number of joints with bony joint enlargements (0–30), pain upon palpation (0–30), soft tissue swelling (0–30), deformities (0–22) and limitations in motion (0–22). Disability was assessed by the Functional Index for hand OA (FIHOA); this scale ranges from 0–30. A FIHOA score of $\geq$5 was considered as disability. Coping styles were assessed with the Coping with Rheumatic Stressors (CORS) and divided into tertiles. The lowest tertile represented the most beneficial scores and was used as reference category. Conventional radiographs were obtained of the hands and scored using the Kellgren-Lawrence (KL) grading scale. Odds Ratio (OR) with 95% confidence intervals (CI) were calculated using multivariate logistic regression as measures of relative risk for reporting disability in our cross-sectional data, adjusted for age, sex, BMI and joint-specific variables when appropriate. In addition, multivariate analyses were performed for reporting disability after 1 year, adjusting for age, sex, BMI, joint-specific variables and baseline FIHOA.
Results: 314 patients (88% women, mean age 61.4 yrs, median BMI 26.4 kg/m^2) were included with median FIHOA score of 8 (range 0–24). Longitudinal data after 1 year were available in 173 patients, with a median FIHOA score of 9 (range 0–28) after 1 year. FIHOA scores after 1 year were significantly different than cross-sectional scores. The patients with follow-up data were not different from the total group. In the cross-sectional analysis 68% of the patients were considered as disabled, whereas after 1 year the proportion of patients with disability was 71%. In cross-sectional analyses the number of joints painful upon palpation, with deformity and limitations in motion were positively associated with disability (OR 1.11 (95%CI 1.05–1.18), 1.10 (1.02–1.19), 1.08 (1.04–1.11), respectively). KL score was also associated with disability (OR 1.03 (1.00–1.05). In multivariate analysis including all joint-specific factors, only painful joints and joints with limitations in motion remained associated. Cross-sectional multivariate analyses investigating coping styles showed that the highest tertiles for the CORS coping with pain scales "comforting cognitions" (OR 2.14 (95%CI 1.08–4.22) and "decreasing activity" (OR 2.59 (95% CI 1.28–5.25)) were positively associated with disability. The highest tertile for the coping with limitations scale "pacing" was also associated with disability (OR 3.07 (95%CI 1.53–6.16). Disability after 1 year was only associated with the coping scales "decreasing activity" and "pacing" at baseline. These coping styles were associated with disability, independently of joint-specific factors. The joint-specific factors were also associated with disability, independently of coping styles.
Conclusions: In patients with hand OA, joint-specific factors and passive coping styles were both independently associated with disability. Our results suggest that interventions should aim at joint-specific complaints as well as changing coping styles to improve functional outcome.

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NEGATIVE ILLNESS PERCEPTIONS ARE ASSOCIATED WITH SHORT-TERM DISABILITY IN PATIENTS WITH HAND OSTEOARTHRITIS

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Purpose: Hand osteoarthritis (OA) results in considerable limitations of activities in daily life. Which factors contribute to disability in hand OA is unclear. Previous studies have shown that both joint-specific and psychosocial factors contribute to the outcome. From generalized OA we know that in the long-term negative illness perceptions are associated with more disability. In the present study we aim to investigate the association of illness perceptions with disability, and to determine the predictive value of illness perceptions in disability after a short-term follow-up period of one year in patients with hand OA.
Methods: Data were used of the HOSTAS (Hand OSTeoArthritis in Secondary care) study, an ongoing observational cohort. Consecutive patients with primary hand OA diagnosed by the treating rheumatologist in the outpatient clinic of the LUMC have been included. HOSTAS aims to investigate determinants of outcome in patients with hand OA. Illness perceptions were measured at baseline, using the Illness Perception Questionnaire – Revised (IPQ-R). The IPQ-R measures both cognitive and emotional representations of illness in three sections. The first section is the identity component and is concerned with symptoms that patients associate with OA. The second section consists of seven subscales representing the individual's perceptions about the impact of OA in physical, social and psychological functioning. The third section comprises of 18 possible causes that patients attribute OA to, grouped in four dimensions. At baseline and after one year follow-up disability was assessed by the Functional Index for Hand Osteo-Arthritis (FIHOA); the scale ranges from 0–30 (higher score means more disability). Physical examination of all DIP, PIP, IP, MCP and 1st CMC joints was performed by a research nurse on baseline for number of bony swellings (0–30), number of painful joints upon palpation (0–30), number of deformed joints (0–22, not MCP 2–5) and number of joints limited in range of motion (ROM)(0–22). Linear regression analysis was used to associate scores of each IPQ-R dimension to scores in disability, adjusted for age, sex, BMI, number of bony swellings, painful joints, joints with limited ROM and deformed joints. Additional adjustment was made for baseline FIHOA score in longitudinal analysis.
Results: The sample has 258 patients with a mean age of 61 years, 86.4% women, a mean BMI of 27.4 kg/m^2 and a median number of bony swellings of 11 (range 0–24), of joints painful upon palpation of 3 (0–30), of joints limited in motion of 6 (0–22) and of deformed joints of 5 (0–17). After one year, the FIHOA was completed by 198 patients. The mean FIHOA score at baseline was 8.9 (SD 5.9) and after one year 9.3 (6.3) and mean change in FIHOA was 0.81 (SD 3.7, range −10 to 12). At baseline, five dimensions of the IPQ-R were associated with disability. These five consisted of more symptoms attributed to OA on the identity section (β 0.62; 95%CI 0.33, 0.91), more perceived consequences (0.47; 0.32, 0.62), less illness coherence (−0.25; −0.42, −0.08), more negative emotions associated with OA (0.35; 0.22, 0.47) and beliefs about psychological factors as an attributed cause (0.22; 0.06, 0.38). Disability at one year follow-up was associated with other baseline IPQ-R dimensions. These were perceived illness chronicity (0.20; 0.04, 0.36), less perceived treatment control (−0.28; −0.47, −0.09) and immunity as causal factor (−0.25; −0.50, −0.01). On the other dimensions of the IPQ-R a trend was seen with more negative illness perceptions being associated with more disability, both at baseline and at follow-up.